

REMARKS

In view of the above amendment, applicant believes the pending application is in condition for allowance. Claims 9-17 replace previous claims 1-8.

Claims 1-8 are rejected under 35 U.S.C. 102(a/e) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Collins et al. (US 2003/0159990) or Baba et al. (US 6,461,511) or JP 8215681.

The new main claim 9 gathers features of initial claims 1 and 2 and recites the addition of a biological floc having an average dry matter concentration lower than or equal to 2 g/l.

The Examiner considers that Collins et al. makes the invention obvious.

Applicant does not agree to such an assertion.

Collins et al. teaches the introduction of chemical polymers (see [0013]) in a membrane biological reactor (MBR) to coagulate and flocculate the biomass.

Moreover, as admitted by the Examiner, Collins et al. generate the sludge in situ, instead of adding sludge coming from elsewhere.

On the contrary, according to the invention, a biological floc (not a chemical product) is introduced into the effluent for filtration (see specification page 6, lines 5-10, and page 7, lines 32 to page 8, line2) the biological floc being obtained from another part of the installation, or from another installation (see page 6, lines 34-36 and page 7, lines 1-4).

The advantages of the invention over chemical reagents such as those of Collins et al. are recited in the specification on page 9, lines 15-36.

It is clear that Collins et al does not anticipate and does not make obvious the invention. There is no teaching of using a biological reagent in this reference.

Baba et al. relates to an apparatus and a method for waste water treatment and not to a method for generating excessive sludge. Baba et al seek to reduce the production of sludge. The fouling problem of a membrane does not appear to be contemplated by Baba et al., and *a fortiori* there is no indication of using a biological floc for preventing membrane fouling.

The Examiner asserts also that JP 08 215 681 teaches injecting activated sludge in water upstream in a membrane separation process, as claimed by the applicant. Applicant disagrees.

'681 considers membrane clogging due to particles having a size smaller than the size of the membrane pores. The reference adds sludge 7, which adsorbs suspended particles in raw water 3. Thus, particles of sludge grow by accumulating suspended particles, to arrive at a size larger than the size of the membrane pores, and suspended particles do not enter these pores to clog them.

Taking account of the solution of '681, i.e., growth of particles, a man skilled in the art will understand that the added sludge 7 is obtained from mineral and/or organic coagulant (non natural low molecule weight polymers).

Nothing in '681 teaches the addition of a biological floc, which is a natural product, for preventing clogging of the membranes.

A man skilled in the art would not contemplate such an addition of a biological floc because, as explained in the English specification, page 6, lines 12-20 in the literature, such a biological floc is identified as having a highly clogging character.

In a surprising manner, the invention provides protection against clogging by the addition of a biological floc.

Moreover, such a biological floc is not expensive and provides real progress in the art.

Thus, claim 9 is not only novel but is also inventive over the cited documents or their combination since no document teaches the use of biological floc.

The other claims 10-17 depend on claim 9. Claim 9 is being patentable, claims 10-17 are also patentable.

In view of the above, consideration and allowance are, therefore, respectfully solicited.

In the event the Examiner believes an interview might serve to advance the prosecution of this application in any way, the undersigned attorney is available at the telephone number noted below.

The Director is hereby authorized to charge any fees, or credit any overpayment, associated with this communication, including any extension fees, to CBLH Deposit Account No. 22-0185, under Order No. 21029-00309-US1 from which the undersigned is authorized to draw.

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Respectfully submitted,

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